REMARKS/ARGUMENTS

Claims 21-40 are pending in this Application.

Claims 21, 30, 32, 34, 37, 39, and 40 are currently amended. Applicant submits that support for the claim amendments can be found throughout the specification and the drawings.

Claims 21-40 remain pending in the Application after entry of this Amendment. No new matter has been entered.

In the Office Action, claims 21-31 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Claims 21-26 and 28-40 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,459,439 to Ahlquist et al. (hereinafter "Ahlquist"). Claim 27 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Ahlquist.

The Advisory Action dated June 15, 2007 indicates that Applicant's Amendment dated June 4, 2007 raised new issues that would require further consideration and/or search.

Amendment Dated June 4, 2007

Applicant respectfully request that the Amendment dated June 4, 2007 not be entered. Thus, the listing of claims attached to the Amendment will replace all prior versions, and listings, of claims in the application.

Claim Rejections Under 35 U.S. C. § 102(e)

Applicant respectfully traverses the rejections to claims 21-26 and 28-40 and requests reconsideration and withdrawal of the rejections under 35 U.S.C. § 102(e) based on Ahlquist.

Applicant respectfully notes that to anticipate a pending claim, a prior art reference must provide, either expressly or inherently, each and every limitation of the pending claim. (M.P.E.P. § 2131).

The Office Action alleges that Ahlquist teaches or suggests all of the claim limitations of claims 21-26 and 28-40. However, based on the arguments presented below,

Appl. No. 10/602,556
Amdt. dated July 3, 2007
Amendment under 37 CFR 1.116 Expedited Procedure
Examining Group 2628

PATENT

Applicant respectfully submits that Ahlquist fails to teach or suggest at least one of the claim limitation recited in each of claims 21-26 and 28-40.

Claim 21

Amended claim 21 recites a computer-implemented method of generating a graphical warp through transformation of an undeformed model to a deformed model, the method comprising:

receiving information specifying the undeformed model;

receiving a set of feature specifications defined over the undeformed model, each feature specification comprising a source feature and a target feature;

receiving, independent of the set of feature specifications defined over the undeformed model, a set of transformations that map the source feature to the target feature in each feature specification in the set of feature specifications;

receiving a set of strength fields corresponding to the set of feature specifications, the set of strength fields defined over the undeformed model for scaling the magnitude of transformations in the set of transformations to generate a set of scaled transformations;

receiving, independent of the set of strength fields, a set of weighting fields corresponding to the set of feature specifications, the set of weight fields defined over the undeformed model for determining the relative influence of the set of scaled transformations; and

generating the deformed model independent of receiving the set of feature specifications using a graphical warp through transformation of the undeformed model to the deformed model by applying the set of transformations, the set of strength fields, and the set of weighting fields to the undeformed model.

Applicant respectfully submits that the tools provided in Ahlquist, either individually or in combination, fail to teach or suggest all of the claim limitations of claim 21.

For example, Applicant respectfully submits that the "pull tool," the "push tool," and the "area tool" of Ahlquist do not teach or suggest receiving a set of feature specifications

defined over the undeformed model where each feature specification includes both a source feature and a target feature as recited in amended claim 21. The user influences the user's motion of each tool in Ahlquist from a starting point to an ending point that ends with the deformed path. Thus, the end points in Ahlquist are substantially different from the target feature in the set of feature specifications defined over the undeformed model as recited in amended claim 21 because the end points in Ahlquist are the deformed path.

Applicant further respectfully submits that the "pull tool," the "push tool," and the "area tool" of Ahlquist do not teach or suggest receiving a set of transformation that map the source feature to the target feature in each feature specification defined over the undeformed model as recited in amended claim 21. For example, in regard to the "pull tool," the user in Ahlquist selects a starting point on a path and pulls the path to an end point. The function associated with the pull tool in Ahlquist does not map the start point to the end point provided by the user because the user provides the motion from the start point to the end point. Furthermore, every other end point in Ahlquist is calculated using the motion of the tool and the transfer function to generate the deformed model which is substantially different from the set of transformation functions recited in amended claim 21 that map the source feature to the target feature in each feature specification defined over the undeformed model.

Applicant also respectfully submits that Ahlquist does not teach or suggest receiving a set of strength fields and receiving a set of weighting fields as recited in amended claim 21. For example, amended claim 21 recites receiving a set of strength fields "corresponding to the set of feature specifications" and receiving a set of weighting fields "corresponding to the set of feature specifications." In Ahlquist, the parameters "correspond" to the tool, and more specifically to the transfer function associated with the tool. Merely associating a parameter with a function of a tool is substantially different from receiving a set of strength fields and a set of weighting fields corresponding to the set of feature specifications defined over the undeformed model as recited in claim 21.

Finally, Ahlquist is directed to manipulating the paths on the model as influenced by the user provided the starting point and the ending point of each tool. Applicant respectfully

submits that the user manipulations in Ahlquist do not teach or suggest generating the deformed model independent of receiving the set of feature specifications using a graphical warp through transformation of the undeformed model to the deformed model by applying the set of transformations, the set of strength fields, and the set of weighting fields to the undeformed model as recited in amended claim 21.

Accordingly, Applicant submits that Alhquist does not teach or suggest each and every claim limitation recited in amended claim 21. Thus, Applicant submits that claim 21 is allowable over the cited references.

Claim 30

Amended claim 30 recites a computer-implemented method of generating a graphical warp, the method comprising:

receiving information specifying an undeformed model;

receiving a parameter set specifying a warp;

determining, based upon the parameter set, a set of transformations that map a source feature defined over the undeformed model to a target feature defined over the undeformed model, a set of strength fields defined over the undeformed model, and a set of weighting fields defined over the undeformed model; and

determining a deformation function based upon the set of transformations, the set of strength fields, and the set of weighting fields; and

applying the deformation function to the undeformed model independent of receiving the parameter set to generate a deformed model.

Applicants respectfully submit that Ahlquist fails to teach or suggest each and every claim limitation of claim 30. For example, claim 30 recites receiving a parameter set specifying a warp. Applicant submits that the set of "parameters" or variables of the functions in Ahlquist are substantially different from the "parameter set specifying a warp" as recited in claim 30.

Additionally, on page 4 of the Office Action, the Examiner recognizes that the set of transformations, a set of strength fields, and a set of weighting fields are determined from the received parameter set as recited in claim 30. The Examiner then states that in Ahlquist the user defines the function for the tool, the length parameter, and the pressure parameter. However, the Examiner has not show or provided evidence where Ahlquist discloses that the set of transformations, a set of strength fields, and a set of weighting fields are determined from a parameter set. The Examiner clearly states that the user provides the function for the tool, the length parameter, and the pressure parameter.

In the Advisory Action, the Examiner merely alleges that the pressure parameter ranging from 0 on up and the strength parameter of Ahlquist read on the claimed parameter set. However, the Examiner has still fails to provide evidence where Ahlquist discloses the claimed feature of determining, based upon the parameter set, a set of transformations that map a source feature defined over the undeformed model to a target feature defined over the undeformed model, a set of strength fields defined over the undeformed model, and a set of weighting fields defined over the undeformed model. Applicant submits that the providing two parameter values in Ahquist fails to teach or suggest determining, based upon the parameter set, a set of transformations that map a source feature defined over the undeformed model to a target feature defined over the undeformed model, a set of strength fields defined over the undeformed model, and a set of weighting fields defined over the undeformed model.

Applicant further submits that Ahlquist does not teach or suggest applying the deformation function to the undeformed model independent of receiving the parameter set to generate a deformed model. Accordingly, Applicant respectfully submits that Alhquist fails to teach or suggest each and every claim limitation of claim 30. Thus, Applicant submits that claim 30 is allowable over the cited refernces.

Claims 22-40

Applicant respectfully submits that independent claims 32, 34, 37, 39, and 40 are allowable for at least a similar rationale as discussed above for the allowability of claim 21 and

30, and others. Applicant respectfully submits that dependent claims 22-29, 31, 33, 35-36, and 38 that depend directly and/or indirectly from the independent claims 21, 30, 32, 34, 37, and 39 respectively, are also allowable for at least a similar rationale as discussed above for the allowability of the independent claims. Applicant further respectfully submits that the dependent claims recite additional features that make the dependent claims allowable for additional reasons.

Applicants respectfully traverses the rejections to claims 27 and requests reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) based on Ahlquist.

Claim Rejections Under 35 U.S.C. § 101

Applicant wishes to thank the Examiner for an indication of withdrawal of the claim rejections under 35 U.S.C. § 101 in the Advisory Action. For completeness, Applicant repeat the traversal of the rejections to claims 21-40 that led to the reconsideration and withdrawal of the rejections under 35 U.S.C. § 101.

On page 4 of the Office Action, the Examiner alleges that the final results of the claims are nothing more than abstract ideas within a processor. Applicants respectfully disagree. In regard to claim 21, for example, section 101 of title 35, United States Code, provides:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

As the Supreme Court has recognized, Congress chose the expansive language of 35 U.S.C. § 101 so as to include "anything under the sun that is made by man" as statutory subject matter. Diamond v. Chakrabarty, 447 U.S. 303, 308-09, 206 USPQ 193, 197 (1980). In Chakrabarty, 447 U.S. at 308-309, 206 USPQ at 197, the court stated:

> In choosing such expansive terms as "manufacture" and "composition of matter," modified by the comprehensive "any," Congress plainly contemplated that the patent laws would be given wide scope.

Applicant recognizes that the Federal courts have held that 35 U.S.C. § 101 does have certain limits. First, the phrase "anything under the sun that is made by man" is limited by the text of 35 U.S.C. § 101, meaning that one may only patent something that is a machine,

Appl. No. 10/602,556
Amdt. dated July 3, 2007
Amendment under 37 CFR 1.116 Expedited Procedure
Examining Group 2628

PATENT

manufacture, composition of matter or a process. See, e.g., <u>Alappat</u>, 33 F.3d at 1542, 31 USPQ2d at 1556; <u>Warmerdam</u>, 33 F.3d at 1358, 31 USPQ2d at 1757 (Fed. Cir. 1994).

To properly determine whether a claimed invention complies with the statutory invention requirements of 35 U.S.C. § 101, the first determination is whether the claim falls within at least one of the four enumerated categories of patentable subject matter recited in section 101 (i.e., process, machine, manufacture, or composition of matter).

Applicants respectfully submit that claim 21 recites one or more steps to be performed, and thus falls within one of the enumerated categories of patentable subject matter (e.g., a process).

Next, whether the claim falls within one of the four enumerated categories of patentable subject matter recited in 35 U.S.C. 101 (i.e., process, machine, manufacture, or composition of matter) does not end the analysis because claims directed to nothing more than abstract ideas (such as mathematical algorithms), natural phenomena, and laws of nature are not eligible for patent protection. <u>Diehr</u>, 450 U.S. at 185, 209 USPQ at 7; accord, e.g., <u>Chakrabarty</u>, 447 U.S. at 309, 206 USPQ at 197; <u>Parker v. Flook</u>, 437 U.S. 584, 589, 198 USPQ 193, 197 (1978); <u>Benson</u>, 409 U.S. at 67-68 , 175 USPQ at 675; <u>Funk</u>, 333 U.S. at 130, 76 USPQ at 281. While abstract ideas, natural phenomena, and laws of nature are not eligible for patenting, <u>methods and products employing abstract ideas</u>, natural phenomena, and laws of nature <u>to perform a real-world function may well be</u>.

In evaluating whether a claim meets the requirements of section 101, the claim must be considered as a whole to determine whether it is for a particular application of an abstract idea, natural phenomenon, or law of nature, and not for the abstract idea, natural phenomenon, or law of nature itself. A claimed invention is directed to a practical application of a 35 U.S.C. 101 judicial exception when it, otherwise produces a useful, concrete and tangible result. The Examiner alleges that claim 21 fails to produce a tangible and concrete result.

The <u>tangible</u> requirement requires that the claim must recite more than a 35 U.S.C. 101 judicial exception, in that the process claim must set forth a practical application of that judicial exception <u>to produce a real-world result</u>. <u>Benson</u>, 409 U.S. at 71-72, 175 USPQ at

676-77. The other consideration is whether the invention produces a <u>concrete</u> result. In other
words, the process must have a result that can be <u>substantially repeatable</u> or the process must
substantially produce the same result again. <u>In re Swartz</u>, 232 F.3d 862, 864, 56 USPQ2d 1703,
1704 (Fed. Cir. 2000).

      The Examiner further has failed to provide reasoning, evidence, or case law
indicating why the transformations of the data representing the deformed model recited in claim
21 fail to produce a real-word result to support the Examiner's conclusion that the resulting
deformed model is an abstract idea within a processor, and therefore not tangible under section
101. Furthermore, the Examiner has failed to provide reasoning, evidence, or case law
demonstrating that the process of claim 21 <u>cannot</u> substantially produce the same result again to
support the Examiner's conclusion that the result of the deformed model is not concrete under
section 101.

      Applicant, however, notes that the claim at issue in <u>State Street</u> does not recite
any specific step for outputting or providing a result outside of a processor as alleged to be
required by the Examiner in the Office Action. The Federal Circuit held that the claim was
patentable because:

      the transformation of data, representing discrete dollar amounts, by a machine through a
      series of mathematical calculations <u>into a final share price</u>, constitutes a practical
      application of a mathematical algorithm, formula, or calculation, because it produces 'a
      useful, concrete and tangible result' - <u>a final share price momentarily fixed for recording</u>
      <u>and reporting purposes and even accepted and relied upon by regulatory authorities and</u>
      <u>in subsequent trades</u>. State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. (Fed.
      Cir. 1998). (Emphasis Added).

      Applicant previously argued that the transformation of the undeformed model
(e.g., data representing a discrete defined model/object) using a graphical warp as recited in
claim 21 produces a real-word result – the deformed model (e.g., transformed data representing a
discrete defined model/object) momentarily fixed for recording and displaying purposes, and
even accepted and relied upon by the computer industry, the entertainment industry, and the
medical imaging industry that use computer graphic tools that include warping techniques. (See
Application: Background, first paragraph.) The Examiner has failed to provide any evidence to

demonstrate that the resulting deformed model as recited in claim 21 is not a real-world result

that cannot be accepted and relied upon by the computer industry (e.g., computer graphics), the

entertainment industry (e.g., special effects, animations, movies), and the medical imaging

industry (e.g., x-rays, MRIs, PETs).

CONCLUSION

In view of the foregoing, Applicant believes all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,

/Sean F. Parmenter/
Sean F. Parmenter
Reg. No. 53,437

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, Eighth Floor
San Francisco, California 94111-3834
Tel: 650-326-2400
Fax: 415-576-0300
SFP:m6s
61087255 v1